

Exhibit 9

In The Matter Of:

FEDERAL HOUSING FINANCE AGENCY, ET AL.

v.

HSBC NORTH AMERICA HOLDINGS, INC., ET AL.

HANS R. ISAKSON, Ph.D. - Vol. 1

June 19, 2014

CONFIDENTIAL
PURSUANT TO THE PROTECTIVE ORDER

MERRILL CORPORATION

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

-----X
FEDERAL HOUSING FINANCE AGENCY, AS
CONSERVATOR FOR THE FEDERAL NATIONAL
MORTGAGE ASSOCIATION AND THE FEDERAL
HOME LOAN MORTGAGE CORPORATION,

Plaintiff,
vs. 11 Civ. 6189 (DLC)

HSBC NORTH AMERICA HOLDINGS,
INC., et al.,

Defendants.

-----X
FEDERAL HOUSING FINANCE AGENCY, etc.,

Plaintiff,
vs. 11 Civ. 6198 (DLC)

GOLDMAN, SACHS & CO., et al.,

Defendants.

-----X
FEDERAL HOUSING FINANCE AGENCY, etc.,

Plaintiff,
vs. 11 Civ. 7010 (DLC)

ALLY FINANCIAL INC., et al.,

Defendants.

-----X

VOLUME I

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WITNESS: HANS R. ISAKSON, Ph.D.

DATE: June 19, 2014

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1

2

June 19, 2014

3

9:49 a.m.

4

5

VIDEOTAPED DEPOSITION of HANS R.

6

ISAKSON, Ph.D., held at the offices of QUINN

7

EMANUEL URQUHART & SULLIVAN LLP, 51 Madison

8

Avenue, New York, New York, before Frank J.

9

Bas, a Registered Professional Reporter,

10

Certified Realtime Reporter and Notary Public

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within and for the State of New York.

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2 publications.

11:40:06

3 Q. Okay.

11:40:07

4 A. The sales data.

11:40:08

5 The Tarrant County Tax

11:40:10

6 Assessor's Office gave me additional data,

11:40:13

7 they literally gave me the characteristics and

11:40:15

8 assessed value of every property in the

11:40:18

9 county. That was huge. But, you know, I

11:40:20

10 didn't use all of that -- all of that data. I

11:40:23

11 just was able to use the sales data.

11:40:26

12 Q. Okay. You weren't using the

11:40:28

13 assessed -- the tax assessed value data?

11:40:30

14 A. I was using tax assessed values

11:40:33

15 in only one study, and that was the Tarrant

11:40:36

16 County, the study I did for Tarrant County.

11:40:40

17 Because that's what they asked for.

11:40:42

18 Q. Right.

11:40:44

19 A. That's what they -- they wanted

11:40:46

20 to know that relationship and how it varied

11:40:47

21 from --

11:40:50

22 Q. Right.

11:40:53

23 Other than Tarrant County, have

11:40:53

24 you ever had occasion to use tax assessor data

11:40:55

25 in any of your research or analysis?

11:40:57

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2 A. Once again, when you say tax 11:40:59

3 assessor -- 11:41:01

4 Q. I'm not talking about sales 11:41:01

5 data provided to you by a tax assessor's 11:41:03

6 office. I'm talking about the tax assessed 11:41:05

7 values, the tax assessment values given by the 11:41:07

8 tax assessor office, the assessed values, as 11:41:10

9 distinct from arms-length sales data that 11:41:13

10 you're describing. 11:41:17

11 A. I cannot separate the two. 11:41:18

12 Because when I am provided the sales data it 11:41:20

13 invariably includes the assessed value. 11:41:23

14 Q. Was any of your research, other 11:41:26

15 than Tarrant County, focused on the assessed 11:41:29

16 value? Any of your research or analysis in 11:41:32

17 any shape or form, at any time since you 11:41:33

18 graduated from college? 11:41:35

19 A. Other than my work in Tarrant 11:41:37

20 County, no. 11:41:39

21 Q. And how, when you were using 11:41:40

22 the arms-length transaction data that you got 11:41:43

23 from the sales office in your other work, did 11:41:46

24 you adjust for any potential errors or 11:41:50

25 mistakes made by the tax assessor's office in 11:41:55

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2 that data?

11:41:58

3 A. And are you referring to my
4 Tarrant County study, or to other studies?

11:42:02

11:42:12

5 Q. Generally speaking. Did you

11:42:14

6 ever attempt to take any -- my word --

11:42:15

7 filtering, or other checks on that data

11:42:23

8 because -- out of concern that the data you

11:42:26

9 were getting from the tax assessors may not be

11:42:28

10 accurate for some reason?

11:42:30

11 A. Yes.

11:42:31

12 Q. And how did you do that, sir?

11:42:31

13 A. I routinely do an analysis for

11:42:34

14 outliers.

11:42:38

15 Q. And what's an "outlier"?

11:42:40

16 A. An outlier is an observation

11:42:41

17 that does not fit the model very well; does

11:42:45

18 not explain -- it is not explained by the

11:42:51

19 model. It can be -- outliers can be

11:42:53

20 identified using a number of different

11:42:57

21 statistical measures that are developed for

11:43:00

22 that purpose.

11:43:03

23 I personally tend to use Cook's

11:43:04

24 D, is the name of the statistic that I like to

11:43:08

25 use, simply because it's -- it is routinely

11:43:11

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2 produced by many statistical software

11:43:14

3 packages.

11:43:18

4 Q. And why is it that you want to

11:43:19

5 remove these outliers?

11:43:22

6 A. I don't necessarily want to

11:43:25

7 remove these outliers. I want to identify

11:43:26

8 them and study them more carefully to

11:43:28

9 determine if there are grounds for removing

11:43:32

10 the outliers.

11:43:35

11 So the purpose of the

11:43:37

12 statistical analysis is to identify potential

11:43:39

13 outliers, and then to look at those more

11:43:43

14 carefully, and determine if there is a reason

11:43:46

15 that I can identify why this is an outlier.

11:43:51

16 For example, I might discover

11:43:56

17 that there is an obvious coding error in the

11:43:58

18 data, that -- in the research I'm currently

11:44:03

19 engaged in in Black Hawk County, if I recall

11:44:10

20 correctly, we discovered a sale that -- of a

11:44:12

21 house that was built in I think 1872 or

11:44:17

22 something like that, a very, very old house,

11:44:22

23 that was coded up as having I think twelve

11:44:25

24 bathrooms.

11:44:28

25 Upon further inspection --

11:44:29

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2 What do you think the 14:56:16
3 appraiser's obligations were between 2005 and 14:56:17
4 2008, in your expert opinion, in rendering 14:56:19
5 appraisal opinions on the properties at issue 14:56:23
6 in the sample that the valuation analysis was 14:56:25
7 performed on in this case? 14:56:30

8 A. To render an opinion of value, 14:56:31
9 meaning the most probable selling price, as of 14:56:33
10 the date of the appraisal. 14:56:36

11 Q. And that's it? Plain and 14:56:37
12 simple, right? 14:56:39

13 A. No, that's not it plain and 14:56:40
14 simple. They are also obligated to complete 14:56:42
15 an entire appraisal report, whose parameters 14:56:47
16 are probably specified by the lender, by the 14:56:54
17 end user. The lender may require them to use 14:56:57
18 a particular form, or that their report 14:57:00
19 include particular information, and they would 14:57:06
20 be obligated to comply with the -- if the 14:57:09
21 transaction involved financing, they would be 14:57:17
22 obligated to provide a complete report. 14:57:19

23 Q. Do you consider yourself to 14:57:24
24 have expertise in the appraisal process? 14:57:25

25 A. I have expertise in the process 14:57:31

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2 that appraisers use to arrive at an estimate 14:57:35
3 of value. 14:57:40

4 Q. I think we've established 14:57:41
5 today, though, that you don't have a working 14:57:43
6 understanding of USPAP, correct? 14:57:44

7 A. That is correct. 14:57:46

8 Q. And you've never performed 14:57:47
9 appraisals in your career? 14:57:49

10 A. I have not. 14:57:50

11 Q. And so -- well, let's just 14:57:50
12 leave it there, then. All right. 14:57:55

13 Let me ask you a question: 14:57:57

14 Am I correct in understanding 14:57:58
15 that your opinion in these cases -- Goldman, 14:58:00
16 Ally, and HSBC -- is that you're rendering no 14:58:04
17 opinion one way or the other as to whether the 14:58:07
18 Subject Properties were in fact -- did in fact 14:58:09
19 have inflated appraisals or not, right? 14:58:12

20 A. That is correct. 14:58:15

21 Q. You take no view, one way or 14:58:15
22 the other, as to whether they were or weren't 14:58:17
23 inflated? 14:58:18

24 A. That is correct. 14:58:19

25 Q. Your opinion, in its broadest 14:58:20

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2 sense, is just that if they were inflated 14:58:23

3 Dr. Kilpatrick hasn't established that with 14:58:26

4 sufficient scientific accuracy in his 14:58:29

5 regression model, right? 14:58:32

6 A. I don't know that I would 14:58:34

7 characterize it exactly in those terms. 14:58:36

8 Q. How would you characterize 14:58:38

9 it, sir? 14:58:39

10 A. I would characterize it that in 14:58:40

11 my opinion the Greenfield AVM estimates of 14:58:43

12 value are higher than the appraised values on 14:58:48

13 the Subject Properties because the Greenfield 14:58:53

14 AVM systematically under assessed -- I'm 14:58:58

15 sorry. Correction. 14:59:05

16 The Greenfield AVM estimates a 14:59:05

17 value less than the appraised values of the 14:59:07

18 Subject Properties not because the appraisals 14:59:09

19 were wrong, but because the Greenfield AVM is 14:59:15

20 wrong. 14:59:17

21 Q. So the appraisals, in your 14:59:18

22 view, may be wrong; it's not something you've 14:59:20

23 looked at, right? 14:59:22

24 A. I did not look at the 14:59:22

25 appraisals and render an opinion regarding 14:59:23

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2 whether they were accurate or not. 14:59:26

3 Q. And so your opinion is just 14:59:28

4 that, whether the appraisals were -- even if 14:59:31

5 the appraisals were higher than the actual 14:59:35

6 values, Dr. Kilpatrick, with his model, hasn't 14:59:37

7 established that, in your professional 14:59:41

8 opinion, right? 14:59:42

9 A. He has not established whether 14:59:46

10 the market values were higher or lower than 14:59:49

11 the appraised values. 14:59:54

12 Q. And you have no -- I've asked 14:59:55

13 you three times, but I want to make sure. You 14:59:58

14 have no opinion as to whether they were 15:00:00

15 higher, lower, whatsoever, right? 15:00:02

16 A. I have no opinion regarding the 15:00:04

17 appraised values. 15:00:07

18 Q. You have no opinion as to 15:00:07

19 whether the appraised values were right or 15:00:08

20 wrong? 15:00:11

21 A. That is correct. 15:00:12

22 Q. Whether they should have been 15:00:12

23 higher or lower? 15:00:13

24 A. That is correct. 15:00:14

25 MR. RAND: Okay. We have to 15:00:18

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2 how valuation models are fitted by the 16:13:35
3 academic community for review by -- by our 16:13:43
4 peers, and ultimate publication in our 16:13:48
5 academic journals. 16:13:51

6 And the CV process as employed 16:13:54
7 by Dr. Kilpatrick has never been published 16:13:57
8 anywhere, in my opinion. It is not supported 16:14:02
9 by any scientific studies that I am aware of. 16:14:06

10 And not only that, but it is -- 16:14:14
11 the process is contrary to the general 16:14:18
12 principle in statistics that when your model 16:14:23
13 fails to describe the dependent variable, that 16:14:28
14 you shouldn't -- you should add explanatory 16:14:34
15 variables, or improve the model. You should 16:14:39
16 not remove objectionable regression 16:14:42
17 observations because they don't agree with 16:14:45
18 your model. In other words, you should -- you 16:14:48
19 should add columns to the model, not delete 16:14:51
20 rows in order to make it appear more accurate. 16:14:54
21 And that's what I object to. 16:14:58

22 Q. What scientific studies are you 16:15:00
23 aware of that talk about the appropriate data 16:15:02
24 pruning or data omitting processes? 16:15:09

25 A. I've cited a few sources in my 16:15:15

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2 report that address the issue of data pruning, 16:15:18

3 and of how to properly treat outliers, and 16:15:26

4 that's not what Dr. Kilpatrick does. 16:15:31

5 Q. The way to deal with outliers 16:15:33

6 is the way you described it earlier in your 16:15:35

7 deposition here today, right, sir? 16:15:36

8 A. That is correct. 16:15:37

9 Q. And that's the only way to do 16:15:38

10 it, right? 16:15:39

11 A. That is the preferred way to do 16:15:40

12 it. That's how, you know, I would do it. 16:15:43

13 Q. And that's a scientific way to 16:15:45

14 do it, if you want to be accepted -- 16:15:47

15 A. And that is a scientifically 16:15:49

16 acceptable way to do it. 16:15:51

17 Q. But removing outliers without 16:15:52

18 in-depth investigation of each individual one 16:15:55

19 is not scientifically accepted, in your expert 16:15:58

20 opinion, right, sir? 16:16:00

21 A. By removing outliers merely to 16:16:01

22 improve the predictability of a model is what 16:16:06

23 I find unacceptable. In my opinion. 16:16:12

24 Q. And you're basing the view that 16:16:15

25 removing them is being done for the purposes 16:16:17

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2 of increasing the perceived accuracy of the 16:16:21
3 model on the basis of the analysis you had 16:16:24
4 Analysis Group run for you, correct, sir? 16:16:27

5 I mean, empirically you didn't 16:16:30
6 know what impact it would have until you 16:16:31
7 removed the filter? 16:16:33

8 MR. HARSCH: Object to the 16:16:35
9 form. 16:16:36

10 A. Empirically I had a very good 16:16:39
11 idea as to what would happen because of the 16:16:44
12 structure of the CV filter itself. By 16:16:50
13 removing those regression observations that 16:16:54
14 had the greatest error, the ones that were -- 16:16:57
15 where the Greenfield AVM failed by the largest 16:17:06
16 extent, in my opinion would obviously, had 16:17:08
17 they been not removed, would have led to a 16:17:13
18 much higher forecast standard deviation. 16:17:17

19 Q. Is it your expert opinion, sir, 16:17:21
20 that at the point of applying -- utilizing the 16:17:23
21 observations for purposes of each particular 16:17:28
22 run of a model on a subject, that there should 16:17:32
23 be no omission of observables? 16:17:34

24 A. There should be no omission of 16:17:38
25 regression observations merely to improve the 16:17:43

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2 subsequent FSD would be.

17:27:56

3 Q. But you eliminated that filter
4 by Analysis Group both on the training set and
5 the holdout sample, did you not, sir?

17:27:59

17:28:00

17:28:04

6 A. I did not restrict -- yes, that
7 filter -- filtering step was removed from the
8 process.

17:28:06

17:28:10

17:28:13

9 Q. You have never had an analysis
10 performed by anybody where the filter was
11 removed from the training set but not the
12 holdout group, right?

17:28:13

17:28:18

17:28:19

17:28:21

13 A. That's correct.

17:28:23

14 Q. And you have no idea what that
15 would do, or show?

17:28:24

17:28:25

16 A. No.

17:28:28

17 Q. Okay. And you have never done
18 any evaluation as to what relationship the
19 actual Subject Properties in each of the three
20 cases have by way of whether they fall within
21 30th percentile by sort of assessed value to
22 sales price, correct?

17:28:28

17:28:31

17:28:37

17:28:39

17:28:44

17:28:47

23 A. I did not conduct that
24 analysis.

17:28:50

17:28:51

25 Q. You have no idea whether they

17:28:52

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2 do or don't fall within the 30th percentile by 17:28:54
3 sort of sales price-to-assessed value, 17:28:56
4 correct? 17:28:58

5 A. No, I do not, largely because 17:28:59
6 it's immaterial. 17:29:02

7 Q. And why is it immaterial -- if 17:29:03
8 your criticism is that the holdout sample was 17:29:06
9 limited to this 30 percent by sort, why is it 17:29:09
10 immaterial as to whether the Subject 17:29:14
11 Properties had that same representativeness? 17:29:17

12 A. The sole purpose of the 17:29:19
13 calibration process is to calculate the 17:29:21
14 industrywide statistics to use for comparison 17:29:26
15 purposes. When he begins to estimate the 17:29:30
16 values of the Subject Properties in this 17:29:35
17 case -- and by Subject Properties I mean the 17:29:38
18 properties that are secured by the loans in 17:29:42
19 the securities -- he starts over again, he 17:29:45
20 doesn't use any part of that calibration 17:29:52
21 process. He starts from scratch and goes 17:29:54
22 through the entire CoreLogic dataset county by 17:30:00
23 county to apply the Greenfield AVM. That 17:30:05
24 particular step is completely independent from 17:30:12
25 the calibration process that he uses, so 17:30:16

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2 therefore all of my opinions regarding the 17:30:19
3 application of the Greenfield AVM are -- would 17:30:25
4 hold regardless of what he did in the 17:30:32
5 calibration process. 17:30:35

6 Q. So if I understand you 17:30:36
7 correctly, your understanding and opinion is 17:30:37
8 that the calibration process has absolutely 17:30:40
9 nothing to do with the AVM run on the actual 17:30:42
10 Subject Properties, in each of the three 17:30:46
11 cases, and they're just two completely 17:30:49
12 separate worlds? 17:30:52

13 A. Yes. They're independent, 17:30:52
14 separate analyses. 17:30:55

15 Q. All right. 17:30:55

16 And do you know what the 17:30:56
17 average FSD of the AVMs run is on any 17:30:57
18 particular group of Subject Properties, HSBC, 17:31:01
19 Goldman, or Ally, sitting here? 17:31:05

20 A. Those were provided, actually, 17:31:06
21 I believe by Dr. Kilpatrick at one point, for 17:31:12
22 one of the other cases, or at least a 17:31:19
23 description of how the FSDs were calculated, 17:31:21
24 and they're based on the mean squared error 17:31:25
25 terms of each regression. So associated with 17:31:28

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2 error before applying the CV filter. 17:32:48

3 Q. And you think it's appropriate 17:32:51

4 to utilize that FSD prior to utilizing the CV 17:32:53

5 filter, as you put it, irrespective of there 17:32:57

6 not being any analysis or performance in any 17:33:00

7 shape or form of any trimming of data because 17:33:03

8 it represents errant, or not arms-length 17:33:07

9 transactions, correct? 17:33:14

10 A. No. No, I did not say that. 17:33:15

11 Q. But isn't that the result? 17:33:16

12 Because you're basically saying you can't use 17:33:18

13 a CV filter, and I'm going to consider the 17:33:21

14 appropriate FSD the run of the AVM without any 17:33:23

15 filter whatsoever, in any shape or form, 17:33:27

16 right? 17:33:30

17 A. Not exactly. 17:33:31

18 Q. Okay. Well, what were you 17:33:32

19 saying, then? 17:33:33

20 A. In my report what I do is 17:33:34

21 report what happens when the CV filter is 17:33:39

22 removed, and I compare the mean squared errors 17:33:41

23 both before and after application of the CV 17:33:46

24 filter. 17:33:48

25 That does not mean that the 17:33:49

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2 Greenfield AVM should not have undertaken some 17:33:53
3 kind of an analysis for outliers and then 17:33:56
4 develop some kind of protocol or procedure for 17:34:02
5 determining whether those outliers should be 17:34:04
6 eliminated or not, and then reporting the 17:34:08
7 results both with and without the outliers. 17:34:13

8 Q. And reporting the results both 17:34:16
9 with and without the outliers for the reasons 17:34:18
10 you have described previously? 17:34:19

11 A. That's correct. If some other 17:34:20
12 statistical method or technique were being 17:34:25
13 used to identify outliers, certainly, you 17:34:27
14 know, we're in the world of hypotheticals 17:34:32
15 here, there's lots of possible ways in which 17:34:34
16 that might be attempted, to identify the 17:34:37
17 outliers and to investigate these outliers in 17:34:42
18 some way to determine whether they should be 17:34:45
19 excluded or not. 17:34:49

20 And if they are excluded, then 17:34:53
21 of course by my previous testimony, in my 17:34:54
22 opinion, it would be applicable that the 17:34:58
23 analyst should report the results both before 17:35:02
24 and after the exclusion of those outliers. 17:35:04

25 Q. Just to be clear. You do 17:35:08

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2 agree, sir, it's appropriate to provide -- 17:35:10
3 perform some kind of filtering after the run 17:35:13
4 of the AVM, Greenfield AVM model on the 17:35:16
5 Subject Properties in some various fashions 17:35:19
6 that might exist, but just not, in your 17:35:22
7 opinion, using the cross-validation filter, 17:35:24
8 for the reasons you have previously described, 17:35:26
9 right? 17:35:28

10 A. There are techniques that could 17:35:29
11 be used after the initial regression is run to 17:35:33
12 identify outliers. And then once those 17:35:38
13 outliers are investigated further and then 17:35:42
14 dealt with and a decision is made whether to 17:35:46
15 exclude them or include them, if they are 17:35:48
16 excluded then the regression will be run 17:35:51
17 again, and the results would be -- would be 17:35:56
18 examined. And if there appears to be 17:36:00
19 significant differences in those results, then 17:36:04
20 both set of results should be reported. 17:36:07

21 MR. RAND: I need to take a 17:36:12
22 quick break. Can we go off the record for one 17:36:12
23 moment, sir? 17:36:14

24 THE WITNESS: Sure. 17:36:15

25 THE VIDEOGRAPHER: The time is 17:36:15

CONFIDENTIAL PURSUANT TO THE PROTECTIVE ORDER
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2 now 5:36 p.m. We're off the record.

17:36:16

3 ---

17:36:20

4 (Recess from 5:36 to 5:50.)

5 ---

17:50:10

6 THE VIDEOGRAPHER: The time is

17:50:10

7 now 5:50 p.m. Back on the record.

17:50:12

8 BY MR. RAND:

17:50:14

9 Q. Let me move you to Paragraph

17:50:15

10 57, please, of your Goldman report, what we

17:50:18

11 have marked for identification as 40600.

17:50:22

12 Paragraph 57, which starts on --

17:50:28

13 A. "Uniformly."

17:50:35

14 Q. Yes, on page 23.

17:50:37

15 A. I have it.

17:50:39

16 Q. Okay. In Paragraph 57 you're

17:50:39

17 talking about the problem that you perceive

17:50:43

18 and criticize the Greenfield AVM of, of using

17:50:46

19 county lines as opposed to zip-codes for

17:50:52

20 purposes of spatial proximity, right?

17:50:58

21 A. Not exactly, no.

17:51:00

22 Q. All right. Why don't you put

17:51:01

23 it in your words, then?

17:51:03

24 A. No, what I am criticizing here

17:51:03

25 is the use of an entire county as a market

17:51:05